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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/713,194 | 11/17/2003 | Hiroki Maeda | DAIN:540A | 9579 |
| 25944 | 7590 | 09/22/2005 | EXAMINER | |
| OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320 | | | VO, HAI | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1771 | |
| DATE MAILED: 09/22/2005 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/713,194

Applicant(s)

MAEDA ET AL.

Examiner

Hai Vo

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 1771

1. The art rejections over Hanna et al (US 6,175,455) are withdrawn in view of the Applicant's affidavit. The 07/20/2005 Affidavit shows that the subject matter disclosed but not claimed in the reference was derived from the inventor of this application (Junichi Hanna and Kyoko Kogo) and is thus not the invention "by another".
2. The art rejections over JP 09-043581 taken alone are maintained. However, The art rejections over JP 09-043581 in view of Demus et al, the article "Relations of Isomorphism Between Liquid Crystalline Phases. 21. Synthesis and Liquid Cystalline Properties of 4,4'-disubstituted Biphenyls", Journal de Physique, Colloque (1775), (1) p 349-354 are withdrawn. One of skill in the art would not have been motivated to modify Shimizu's liquid crystal material to transport the electrons for utilization of light emission at the electron interface because Shimizu's photoelectric sensor already performs this function on Shimizu's device as pointed out by Applicants (see page 10 of the 07/20/2005 amendment).
3. The art rejections over Ishida et al (US 5,861,108) in view of Demus et al, the article "Relations of Isomorphism Between Liquid Crystalline Phases. 21. Synthesis and Liquid Cystalline Properties of 4,4'-disubstituted Biphenyls", Journal de Physique, Colloque (1775), (1) p 349-354 are withdrawn in view of the present argument. There is no motivation or suggestion to use the liquid crystal material of Demus in the Ishida device to arrive at the presently claimed device.
4. New grounds of rejections are made in view of EP 763 532.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 23 is rejected under 35 U.S.C. 102(b) as being anticipated by JP 09-043581 as evidenced by Clark et al (US 5,227,905) substantially set forth in the 01/21/2005 Office Action. Applicants argue that Clark does not disclose that Shimizu's liquid crystal is rod-shaped. The examiner disagrees. Clark discloses that the ferroelectric liquid crystal of US Patent 4,367,924 having a chiral smectic C or H is rod-shaped. It appears that the information recording medium of Shimizu comprising a liquid crystal material having a chiral smectic C. Therefore, it is not seen that the liquid crystal material of Shimizu could not been a rod-shaped. Like material has like property. This is in line with *In re Spada*, 15 USPQ 2d 1655 (1990) which holds that products of identical chemical

composition can not have mutually exclusive properties. Accordingly, Shimizu anticipates or strongly suggests the claimed subject matter.

8. Claims 13-23 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over EP 763 532. EP'532 teaches an information recording medium comprising a substrate, a pair of electrodes, a liquid crystalline charge transfer material filled into a gap between the electrodes (figure 1). EP'532 teaches the liquid crystal material made from 2-(4'-heptyloxyphenyl)-6-dodecylthiobenzothiazole. Since EP'532 uses the same liquid crystal material as Applicants, it is the examiner's position the rod-shape and charge transport property would be inherently present. Like material has like property. This is also in line with *In re Spada*. EP'532 discloses applying a voltage across the upper and lower electrodes as shown in figure 3. EP'532 does not specifically disclose the claimed thickness. The EP'532 device comprises a pair of electrodes; a liquid crystal material filled into a gap between the electrodes as shown in figure 1. Since EP '532 uses the same liquid crystal material as Applicants to fill the gap between the electrodes, it is the examiner's position that the thickness of the gap between the electrodes would be inherently larger than a domain size of the liquid crystal compound at least in the initial state of the liquid crystal material and as well as that the thickness of the gap between the electrodes would be inherently smaller than a domain size of the liquid crystal compound in a cooled state from the isotropic phase in a final state. It seems from the claim, if one meets the structure recited, the properties must be met or

Applicant's claim is incomplete. This is also in line with *In re Spada*.

Accordingly, EP'532 anticipates or strongly suggests the claimed subject matter.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on M,T,Th, F, 7:00-4:30 and on alternating Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HV

Hai Vo
**HA VO
PRIMARY EXAMINER**